CLAIMS

It is claimed:

1. A differential pressure regulating device, the device comprising:

a shunt being positioned between two or more lumens in a body, to enable fluids to flow between said lumens; and

an adjustable flow regulating mechanism, being configured to selectively cover an opening of said shunt, to regulate the flow of fluid through said shunt in relation to a pressure difference between said body lumens.

2. The pressure regulating device of claim 1, wherein said flow regulating mechanism is to allow a continuous flow of fluids between said body lumens.
3. The pressure regulating device of claim 1, wherein said flow regulating mechanism is to be continually adjustable in accordance with at least one pressure threshold.
4. The pressure regulating device of claim 1, wherein said flow regulating mechanism is to be continually adjustable in accordance with changes in pressure difference between said lumens.
5. The pressure regulating device of claim 1, comprising a control mechanism to remotely control said flow regulating mechanism.
6. The pressure regulating device of claim 5, wherein said control mechanism includes one or more mechanisms selected from the group consisting of: wires, lines, springs, pins, cables, magnets, hooks, latches, electric mechanisms, pressure transducers, telemetry mechanisms, wireless mechanisms, pneumatic mechanisms, and motors.
7. The pressure regulating device of claim 1, wherein said body lumens are chambers of the heart.
8. The pressure regulating device of claim 1, wherein said shunt is to be positioned in the septum of the heart, between the left atrium of the heart and right atrium of the heart.
9. The pressure regulating device of claim 1, wherein said flow regulating mechanism is to close the opening of said shunt.

10. The pressure regulating device of claim 1, wherein said flow regulating mechanism includes one or more mechanisms selected from the group consisting of a disk valve connected to a twisting spring, a pre-shaped flexible wire, a cone connected to a compression spring, a leaflet valve, a flexible disk having an adjustable, substantially central hole, a first balloon having liquid therein and connected through a tube to a second balloon, a first balloon having liquid therein and connected through a tube to a reservoir having a piston moving against a compression spring, and a first balloon having liquid therein and connected through a tube to a reservoir having a piston moving in accordance with a controlled activation system.

11. A differential pressure regulating device, the device comprising:

a shunt being positioned between two or more chambers in a heart, to enable fluids to flow between said chambers;

an adjustable flow regulating mechanism, being configured to selectively cover the opening of said shunt, to regulate the flow of fluid through said shunt; and

a control mechanism to be coupled to said adjustable flow regulating mechanism, to remotely activate said adjustable flow regulation mechanism.

12. The pressure regulating device of claim 11, wherein said control mechanism includes one or more mechanisms selected from the group consisting of one or more wires, lines, springs, pins, cables, magnets, hooks, latches, electric mechanisms, pressure transducers, wireless mechanisms, telemetry mechanisms, pneumatic mechanisms, and motors.

13. The pressure regulating device of claim 11, wherein said chambers are atriums of the heart.

14. The pressure regulating device of claim 11, wherein said shunt is to be positioned in the septum, between the left and right atrium.

15. The pressure regulating device of claim 11, wherein said flow regulating mechanism is to be continually adjustable in accordance with at least one pressure threshold.

16. The pressure regulating device of claim 11, wherein said flow regulating mechanism is rigid, said flow regulating mechanism position being directly controlled by said control mechanism, thereby substantially determining the precise size of the opening of said shunt.

17. An in-vivo pressure control method, the method comprising:

implanting a differential pressure regulation device in a body, said pressure regulation device including a shunt placed between two or more lumens in a said body;

deploying a flow regulating mechanism; and

controlling said flow regulating mechanism setting according to changes in pressure differences between said lumens.

18. The pressure control method of claim 17, comprising remotely controlling said flow regulating mechanism positioning.

19. The pressure control method of claim 17, comprising reducing a pressure difference between a first lumens and a second lumens.

20. The pressure control method of claim 17, comprising positioning said flow regulation mechanism to enable a continual flow of fluid between said lumens.

21. The pressure control method of claim 17, comprising positioning said flow regulation mechanism to cease the flow of fluid between said lumens.

22. The pressure control method of claim 17, wherein said implanting is implemented using percutaneous delivery.

23. An in-vivo pressure control method, the method comprising remotely controlling a flow regulation mechanism flow setting using a control mechanism implanted in a body, said flow regulation mechanism disposed within a differential pressure regulation device comprising a shunt placed between a left atrium of a heart and a right atrium of a heart.

24. The pressure control method of claim 23, comprising reducing a pressure difference between a left and right atrium using said flow regulation mechanism.

25. The method of claim 23, wherein said control mechanism is positioned under the skin of a patient.

26. The method of claim 23, wherein said control mechanism is accessed using one or more mechanisms selected from the group consisting of: wires, lines, springs, pins, cables, magnets, hooks, latches, electric mechanisms, pressure transducers, wireless mechanisms, pneumatic mechanisms, and motors.
27. The method of claim 24, wherein said reduction of blood pressure is to reduce left ventricle blood pressure.